

REMARKS

Claims 38-70, 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205 and 207-218 are pending in the application.

Claims 38-70, 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205 and 207-218 stand rejected.

Claims 51, 57, 111, 124, 137, and 150 are under objection.

Claims 51, 57, 111, 124, 137, and 150 are under objection as including informalities. Claims 177 and 179-190 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 38-52 and 58-65 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,748, 611 issued to Allen et al. ("*Allen*"). Claims 111, 113-124, 126-127, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,490,246 issued to Fukushima et al. ("*Fukushima*"). Claims 124, 126-137, 139-149, 177, 179-190, 191, and 193-204 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Fukushima*. Claims 53-57 and 66-70 stand rejected under § 103(a) as being unpatentable over *Allen* in view of *Fukushima*.

While not conceding that the cited references qualify as prior art, but instead to expedite prosecution, Applicant has chosen respectfully to address the rejection as follows. Applicant reserves the right, for example in a continuing application, to establish that the cited references do not qualify as prior art as to an invention embodiment previously, currently, or subsequently

claimed. Applicant offers that the pending claims are allowable in view of the remarks presented herein.

Formal Matters

The Office Action is silent regarding the limitations of Applicant's dependent claims 113-123, 152-162, 165-176, and 207-218, which stand rejected under § 102(e) (Office Action at 5). The Office Action is also silent regarding the limitations of Applicant's dependent claims 126-136, 139-149, 179-190, and 193-204, which stand rejected under § 103(a) (*id.*). The Office Action appears to have misapplied the standards of patentability under §§ 102(e) and 103(a) with regard to these claims.

The rejections of the dependent claims are improper because they are not supported by any valid reasoning to explain the rejections under §§ 102(e) and 103(a). In particular, the Office Action does not even appear to assert that any of the limitations of the dependent claims may be found in the cited references. Applicant maintains that these dependent claims are allowable under §§ 102(e) and 103(a), because the Office Action fails to set forth any reasoning in support of these rejections, and further because Applicant does not find the limitations of these claims in the cited references.

In addition, **the Office Action does not set forth any explanation for the rejections of claims 66-68.** The Office Action indicates on p. 6 that these claims stand rejected under § 103(a), but provides no reasoning in support of these rejections. Applicant maintains that these dependent claims are allowable under § 103(a), because the Office Action does not provide any grounds for the rejections of these claims, and additionally because Applicant does not find the limitations of these claims in the cited references.

Claim Objections

Claims 51, 57, 111, 124, 137, and 150 are under objection as including informalities.

The Office Action objects to the term “a quality of service 3 capacity field” in claims 51 and 57. Applicant submits that this term is clear and is supported by the Specification as originally filed, which describes on p. 16 the use of quality of service parameters in at least one implementation of a network:

VPs are also assigned a priority level, which determines their relative priority within the network. This quality of service (QoS) parameter is used during failure recovery procedures to determine which VPs are first to be restored. Four QoS levels (0-3) are nominally defined in the protocol, with 0 being the lowest, although a larger or smaller number of QoS levels can be used.

As set forth in Table 1 on p. 16, various parameters may be exchanged among example nodes in a network. One such parameter is the quality of service 3 capacity (“QoS3Capacity”) parameter, which may be used in some implementations to indicate the “Link capacity reserved for QoS 3 connections.” Additional discussion of the quality of service capacity fields may be found, for example, on p. 52 (introducing the “QoS3 capacity (Q3C) field 1730”), and on p. 53 (in Table 12) of the Specification. In view of this supporting description, Applicant respectfully submits that the term “a quality of service 3 capacity field” is clear in claims 51 and 57.

The Office Action also objects to the use of two instances of the word “and” in claims 111, 124, 137, and 150. Applicant respectfully submits that the use of this conjunction is appropriate in these claims.

Claim 111 is set forth below.

111. A method of processing a get link state advertisement packet comprising: receiving said get link state advertisement packet at a downstream node, wherein said get link state advertisement packet is sent by a sending node, said get link state advertisement packet comprises at least one node identifier, said at least one node identifier identifies a node in a network for which said sending node seeks a link state advertisement, **and** said downstream node and said sending node are nodes in said network; sending at least one link state advertisement from said downstream node to said sending node; **and** sending an acknowledgement of the at least one link state advertisement to said downstream node.

(Emphasis added.)

Claim 111 includes various limitations. The limitations are presented among acts that are set forth in a list: “receiving said get link state advertisement packet . . . ,” “sending at least one link state advertisement . . . ,” **and** “sending an acknowledgement” This list employs the word “and,” according to common usage, before the last act in the list.

As noticed in the Office Action, another instance of the word “and” is also present in claim 111. This other use of the word “and” is appropriate because the act of “receiving said get link state advertisement packet” is described using another list. This other list sets forth that “said get link state advertisement packet is sent by a sending node,” “said get link state advertisement packet comprises at least one node identifier,” “said at least one node identifier

identifies a node in a network for which said sending node seeks a link state advertisement,” **and** “said downstream node and said sending node are nodes in said network.” This other list also employs the word “and,” again according to common usage, before the last act in the list. The two instances of the word “and” are thus appropriate in view of the two lists presented in the claim. Accordingly, Applicant respectfully submits that the wording of claim 111 is not improper. For similar reasons, Applicant respectfully submits that the wording of claims 124, 137, and 150 is also not improper.

For these reasons, Applicant respectfully requests that the objections to claims 51, 57, 111, 124, 137, and 150 be withdrawn.

Rejections Under § 112, second paragraph

Claims 177 and 179-190 stand rejected under § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claim 177 is set forth below.

177. A computer system comprising:
a processor;
computer readable medium coupled to said processor; and
computer code, encoded in said computer readable medium, configured to cause said processor to:
receive a hello packet at a downstream node, wherein said hello packet comprises
a link state advertisement;
process said link state advertisement; and
send an acknowledgement to said downstream node, wherein said
acknowledgement acknowledges all link state advertisements in said hello
packet.

The Office Action objects to the claim language “send an acknowledgement to said downstream node, wherein said acknowledgement acknowledges all link state advertisements in said hello packet.” The Office Action appears to suggest that the action set forth in this phrase is unclear because it “does not sequentially follow[]” the language “process said link state advertisement.”

Applicant notes that no time-ordered sequence is explicitly required by claim 177 (other than any logical ordering that may be necessitated by the relationships among the actions set forth therein). Additionally, the language in question is not unclear. Claim 177 is directed to a computer system that includes a processor, a computer readable medium coupled to the processor, and computer code encoded in the computer readable medium. The computer code is configured to cause the processor to receive a hello packet at a downstream node. The hello packet includes a link state advertisement. The computer code is also configured to cause the processor to process the link state advertisement, and to send an acknowledgement to the downstream node. The acknowledgement acknowledges all link state advertisements in the hello packet.

Applicant respectfully submits that the limitations of claim 177 are clear, and can discern no shortcoming of the claim language based on the brief explanation set forth of the rejection in the Office Action. Applicant respectfully submits that a person having ordinary skill in the art would not find claim 177 to be unclear, and that claim 177 is allowable under § 112, second paragraph. For similar reasons, claims 179-190 are also allowable under § 112, second paragraph. Accordingly, Applicant respectfully requests that the rejections under § 112, second paragraph be withdrawn.

Rejections Under § 102(b)

Claims 38-52 and 58-65 stand rejected under § 102(b) as being anticipated by *Allen*.

Applicant respectfully submits that the claims are allowable under § 102(b).

To start, *Allen* does not qualify as a reference under § 102(b). A rejection under § 102(b) requires that:

the invention was patented or described in a printed publication in this or a foreign country . . . , **more than one year prior to the date of application** for patent in the United States.

(Emphasis added.) *Allen* does not meet the requirements of a reference under § 102(b). *Allen* was issued on May 5, 1998. The present Application is a continuation of U.S. Patent Application No. 09/232,397, which was filed on January 15, 1999. *Allen* was therefore not patented more than one year prior to the original filing date of the parent application.

In addition, *Allen* fails to disclose each limitation of the claims. **The Office Action is silent regarding limitations in a number of the rejected claims.** Claim 58 includes a limitation of “said protocol packet is a restore path packet.” Claim 59 includes a limitation that the command-specific data includes “a virtual path identifier field.” Claim 60 sets forth that the command-specific data includes “a path length field.” Claim 61 sets forth that the command-specific data includes “a path index field” and “a path array.” Claim 62 sets forth that the protocol packet “is a create path packet.” Claim 63 sets forth that the command-specific data includes “a virtual path identifier field,” a path length field,” “a path index field,” and a path array.” Claim 64 sets forth that the protocol packet “is a delete path packet.” Claim 65 sets forth

that the command-specific data includes “a virtual path identifier field,” “a path length field,” “a path index field,” and “a path array.”

The Office Action similarly does not address each limitation of claims 40-52. On p. 4, the Office Action simply asserts that “the limitations of these claims have been addressed in claim 38.” Applicant notes that a number of limitations in claims 40-52 are not addressed in the Office Action. For example, claim 40 sets forth the use of “a flush header field.” This limitation is simply not discussed in the Office Action.

The Office Action thus fails to establish that each of the limitations of claims 40-52 and 58-65 are present in the cited reference because the Office Action simply does not discuss any of the limitations set forth in these dependent claims. At least for this reason, the Office Action fails to establish that claims 40-52 and 58-65 are anticipated by the cited reference.

With regard to the limitations in independent claim 38 of **a protocol packet “configured to record a protocol packet path from the origin node to the target node,”** the Office Action points to the following passages from *Allen*:

Each PACK message includes information regarding all of the disrupted paths that originate at the source node. Each PACK message also includes a hopcount field which is incremented as the PACK message traverses the network to reflect the number of spans traversed. In a preferred embodiment of the present invention, when the hop-count value of a PACK message exceeds a predetermined hop-count limit, the PACK message is discarded; in this way, the volume of restoration traffic is limited.

(*Allen* at 6:37-45.)

Referring again to FIG. 7, if the hop-count of the PACK message does not exceed the hop-count limit, then the tandem node records the bandwidth requested, the identity of

the upstream node and the hop-count to the source node, as shown in a step 710. The tandem node then rebroadcasts the PACK message based on the number of copies of the PACK message that the tandem node has received. Tandem nodes keep track of the number of copies using a counter or other similar means, as would be apparent to one skilled in the relevant art.

When a tandem node receives the first copy of a PACK message, as indicated by the "Y" branch from step 712, the tandem node first increments the hop-count in the message, as shown in a step 714, and then broadcasts the modified message along all spans having spare links, except the span along which the first copy of the pack message was received, as shown in a step 716.

For example, assume that tandem node E in network 200 receives the first copy of the PACK message for the restoration of path 1 from source node S, as shown in FIG. 8. Node E then creates a row in its restoration table (the first row of Table 1) and records the identity of the disrupted path (Path ID=1), the identity of the upstream node (UP=S), the hop-count value to the source node (HOP=1), and the bandwidth required to restore the disrupted path (BW=5). Tandem node E then increments the hop-count in the PACK message to 2 and broadcasts the modified message along spans E-A, E-C, and E-D, as shown in FIG. 8.

When a tandem node receives the second copy of a PACK message, as indicated by the "Y" branch from step 720, the tandem node will send the PACK message only along the span on which the first copy of the PACK message was received, as shown in a step 722.

(*Allen* at 7:23-54.)

The cited passages disclose a "PACK message" that includes a hopcount field. *Allen's* hopcount field is incremented as the PACK message traverses the network. The hopcount field thus reflect the number of spans traversed. This field is used to compare the number of traversed spans with a "hop-count limit."

However, the cited passages do not teach that the PACK message records the path taken by the PACK message. While the *Allen* system records the number of spans traversed by a PACK message, it does not include any feature by which the message may record its path from a node origin to a node target. The cited material thus fails to disclose each limitation of claim 38. At least for these reasons, claim 38 is allowable over *Allen*. Claims 39-52 depend on claim 38, and are therefore also allowable for at least the same reasons.

Rejections Under § 102(e)

Claims 111, 113-124, 126-127, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 stand rejected under § 102(e) as being anticipated by *Fukushima*. Applicant respectfully submits that the claims are allowable under § 102(e) because *Fukushima* fails to disclose each limitation of the pending claims.

With regard to the limitations in claim 111 of “said at least one node identifier **identifies a node in a network for which said sending node seeks a link state advertisement,**” the Final Office Action notes on p. 4 that a “Hello” packet transmitted by a *Fukushima* router includes the router’s own ID and a list of other routers’ ID’s (*Fukushima* at 1:48-51). The Office Action also cites the following portion of *Fukushima*.

A list of other routers, which is included in a Hello packet, is prepared according to the states of routers and the states of interfaces mentioned above.

Each router monitors the active modes of the other routers according to information from Hello packets it receives. More specifically, if there is any other router from which the router has not received Hello packets for longer than a fixed period, the router decides that a failure has occurred in this other router.

(*Fukushima* at 2:22-30.) The *Fukushima* Hello packet thus includes references to other routers (“A list of other routers.”). However, these teachings fall short of disclosing the limitations of Applicant’s claim 111. While the *Fukushima* Hello packet may reference the transmitting router and also other routers, there is no indication in *Fukushima* that the Hello packet identifies a node for which a sending node seeks a link state advertisement.

As set forth on p. 17 of Applicant’s originally filed Specification, one implementation of a link state advertisement describes the state of a node’s links. For example, the link state advertisement may contain “a list of the node’s neighbors, links, the capacity of those links, the quality of service available on over links, one or more costs associated with each of the links, and other pertinent information.”

Even if the *Fukushima* system employs a link state advertisement (and Applicant does not concede this point), the cited material does not disclose that a node seeks a link state advertisement from a particular other node through the cited Hello packets (or through any other packets). More particularly, the cited material does not teach that the Hello packets (or any other packets) are employed by a sending node to seek a link state advertisement from another node. And further, the cited material certainly does not teach that the Hello packets (or any other packets) identify the node “for which said sending node seeks a link state advertisement.” This limitation is therefore absent from *Fukushima*.

At least for this reason, independent claim 111 and all claims dependent therefrom are allowable under § 102(e). At least for similar reasons, claims 124, 137, and 150, and all claims dependent therefrom are also all allowable.

Independent claim 163 includes a limitation of sending an acknowledgement to a downstream node “**wherein said acknowledgement acknowledges all link state advertisements in said hello packet**” (emphasis added). The Office Action is silent with regard to this limitation. The Office Action does not propose that any of the cited references teach, describe, or suggest sending an acknowledgement that “acknowledges all link state advertisements in said hello packet.” The Office Action thus fails to establish that claim 163 is anticipated by *Fukushima*. At least for this reason, the rejection of claim 163 should be withdrawn.

Additionally, Applicant does not find this limitation in *Fukushima*, and respectfully submits that this limitation is not present in the cited art. The rejection of claim 163 should therefore also be withdrawn because the cited material does not disclose each limitation of the claim.

At least for these reasons, Applicant respectfully submits that independent claim 163 and all claims dependent therefrom are allowable under § 103(a). At least for similar reasons, independent claims 177, 191, and 205 and all claims dependent therefrom are also allowable under § 103(a).

In the first two lines of p. 5, the Office Action turns to various claims that depend from independent claims 111, 150, 163, and 205. The Office Action states that:

Claims 113-123, 152-162, 165-176, and 207-218 are **rejected because they depend on their parent claims**.

(Emphasis added.) No further discussion is presented with regard to these claims. Applicant respectfully submits that the proposed grounds for the rejection of these claims is not a proper

basis for rejecting claims under § 102(b) or (e). A claim may be rejected under § 102(b) or (e) only if the cited reference discloses each limitation of the claim. In this case, the Office Action has not shown that the limitations of these claims are disclosed in the cited references because the Office Action has not even attempted to discuss the limitations in these claims.

37 C.F.R. § 1.104(c)(2) provides:

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

Applicant respectfully submits that the particular parts of the cited references that the Office Action has relied upon have not been designated as nearly as practicable, as required by § 1.104(c)(2). In particular, the Office Action does not point to any features of the cited art in support of the rejections of claims 113-123, 152-162, 165-176, and 207-218. The Office Action thus fails to meet the standards in § 1.104(c)(2) for setting forth a rejection under § 102. At least for this reason, the rejections of claims 113-123, 152-162, 165-176, and 207-218 should be withdrawn.

Additionally, the various limitations of claims 113-123, 152-162, 165-176, and 207-218 are not present in the cited material. For example, as discussed above, the cited material fails to disclose a protocol packet “configured to record a protocol packet path from the origin node to the target node,” and also does not disclose a node identifier that “identifies a node in a network for which said sending node seeks a link state advertisement.”

At least for these reasons, claims 113-123, 152-162, 165-176, and 207-218 are allowable over the cited material. Accordingly, Applicant respectfully requests that the rejections of these claims be withdrawn.

Rejections Under § 103(a)

based on Fukushima

Claims 124, 126-137, 139-149, 177, 179-190, 191, and 193-204 stand rejected under § 103(a) as being unpatentable over *Fukushima*. In its discussion of these claims, the Office Action refers to the previous rejections of independent claims 111, 150, 163, and 205, and appears to take official notice of the use of computer readable media and computer code encoded therein.

Applicant respectfully submits that independent claim 124 is allowable under § 103(a) because the cited material fails to disclose a node identifier that **“identifies a node in a network for which said sending node seeks a link state advertisement,”** as discussed above. At least for similar reasons, claims 126-137 and 139-149 are also allowable under § 103(a).

Claim 177 is allowable under § 103(a) because the cited material fails to disclose **computer code configured to cause a processor to “send an acknowledgement to said downstream node, wherein said acknowledgement acknowledges all link state advertisements in said hello packet,”** as discussed above. At least for similar reasons, claims 179-190, 191, and 193-204 are also allowable under § 103(a).

In the last two lines of p. 5, the Office Action turns to various claims that depend from independent claims 124, 137, 177, and 191. The Office Action states that:

Claims 126-136, 139-149, 179-190, and 193-204 are **rejected because they depend on their parent claims.**

(Emphasis added.) No further discussion is presented with regard to these claims. Applicant respectfully submits that the proposed grounds for the rejection of these claims is not a proper bases for rejecting claims under § 103(a). A claim may be rejected under § 103(a) only if the cited reference(s) discloses each limitation of the claim. In this case, the Office Action has not shown that the limitations of these claims are disclosed in the cited references because the Office Action has not even attempted to discuss the limitations in these claims. At least for this reason as well, the rejections of claims 126-136, 139-149, 179-190, and 193-204 should be withdrawn.

Rejections Under § 103(a)

based on Allen and Fukushima

Claims 53-57 and 66-70 stand rejected under § 103(a) as being unpatentable over *Allen* in view of *Fukushima*. Applicant respectfully submits that the claims are allowable because a person having ordinary skill in the art would not have a motivation to make the proposed combination of references, and further because the cited art does not teach each limitation of the pending claims.

According to MPEP § 2142, to establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Further, “[t]he initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done.” *Id.*

In this case, the Office Action does not provide any suggestion or motivation for the proposed combination of *Fukushima* and *Allen*. Instead, the Office Action summarily concludes that features allegedly found in *Fukushima* (such as a hello packet) may be combined with features allegedly found in *Allen* (such as a hopcount field). No motivation or suggestion is made to support the contention that a person having ordinary skill in the art would combine these references. At least for this reason, the rejection under § 103(a) based on *Allen* and *Fukushima* should be withdrawn.

In addition, a person having ordinary skill in the art would certainly not combine *Allen* and *Fukushima* because the teachings of *Allen* would incapacitate the system of *Fukushima*. The cited portions of *Fukushima* use packets to “exchange[] information with **all** other routers” (*Fukushima* at 1:44-46 (emphasis added)). In contrast, the packets in *Allen* are limited to traversing only limited stretches of a network: “when the hop-count value of a PACK message exceeds a predetermined hop-count limit, the PACK message is discarded” (*Allen* at 6:41-45). The *Allen* packets are thus curtailed from spanning more than a limited portion of the network, which would make these packets unsuitable for exchanging messages “with all other routers” as is done in *Fukushima*. A person having ordinary skill in the art would thus not seek to use the teachings of *Allen* in *Fukushima*. For at least this reason as well, the rejection under § 103(a) based on the combination of *Allen* and *Fukushima* should be withdrawn.

Still further, even if the proposed combination of *Fukushima* and *Allen* were to be made, it would not achieve each limitation of the pending claims. Claims 53-57 and 66-70 depend on

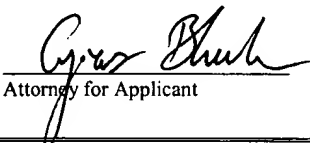
claim 38, which sets forth a protocol packet "configured to record a protocol packet path from the origin node to the target node." As discussed above, *Fukushima* does not disclose this limitation. Applicant also does not find this limitation in *Allen*. Thus, even if these references were to be combined, they would not disclose each limitation of claims 53-57 and 66-70. For at least this reason as well, the rejection under § 103(a) based on *Allen* and *Fukushima* should be withdrawn.

Applicant further notes that the Office Action does not discuss the limitations of claims 66-69. The Office Action has thus failed to support a rejection under § 103(a) of these claims. For at least this additional reason as well, the rejection under § 103(a) of claims 66-69 should be withdrawn.

CONCLUSION

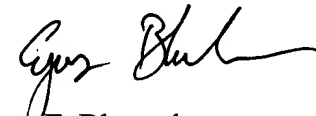
Applicant submits that all claims are now in condition for allowance, and an early notice to that effect is earnestly solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia, 22313-1450, on November 6, 2006.


Attorney for Applicant

2006 Nov 6
Date of Signature

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